Holwell Cavern.

BY ANDREW CROSSE.

HOLWELL Cavern is a fissure in a limestone rock, situated at the north-west side of the parish of Broomfield, in the county of Somerset. This rock has been quarried for several years, and is perfectly free from organic remains; but occasionally cubes of sulphuret of iron are found embedded within it. There is a difference of opinion as to the kind of limestone of which it is composed. Some geologists have determined it to be mountain limestone; but I know not how this can be reconciled with the entire absence of organic remains. I believe the mass of it is of the transition kind, but containing some veins of bituminous limestone. In the immediate vicinity, and to a certain extent within the cavern, are strata of clay slate, which come into contact with the lime rock which lies at the foot and eastern side of the grawacke of the Quantock Hills, upon which it rests. The length of the fissure, as far as it has been examined, is 127 feet; and it is from three and a half feet to twenty in breadth, and from five, to upwards of twenty, in height. Its direction is from east to west, and it is entered at the eastern end. There are some other smaller fissures on the north side of

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ENTRANCE TO HOLWELL CAVE.

the main one, running nearly at right angles to it. At the extreme western end of this cavern is a small pool of water, supplied by a little spring which percolates the rock and passes off through the bottom of the pool. The entrance into the cave has its roof and sides covered with stalactitic carbonate of lime, and you descend several steps, which have been hewn in the rock to allow a better ingress ; and the main fissure has likewise been widened artificially for the same purpose. The roof and sides of the western end are more or less covered with snow-white crystals of arragonite, in great variety—massive with fibrous crystals diverging from a centre—coralliform, composed of aggregations of diverging crystals, (*flos ferri*), mostly translucent, rarely transparent—the colour varying from a snowy white to pale red, but mostly the former. These crystals readily scratch common carbonate of lime, and even glass, but with some difficulty. Water is constantly dropping from the projections of the roof at the western end, and the arragonite would be slowly increasing were it not for the depredations committed on it for some time past by collectors of specimens, who, not contented with fracturing it in all directions, have partially blackened the roof by the smoke of candles. Very large stalactites and stalagmites also have been removed, so that the cavern presents a very different appearance from what it originally did when first discovered. It has been stated both by myself and others, that all the common carbonate of lime found in this cavern has been formed solely upon limestone, and all the arragonite upon clay-slate—Since this statement has been made I have closely examined the matrix upon which these crystallizations are deposited, and though I still find a very large proportion of arragonite upon the clay-slate, yet I find a considerable quantity of

similar arragonite formed upon limestone. There is a wide difference between the rapidity of the growth of the arragonite and that of the common carbonate of lime, the latter increasing several inches in length, whilst the former makes an almost, or quite, imperceptible progress. Thirty five years ago I observed a small basin in the floor of the principal northern fissure of the cavern. This basin was then about fourteen inches in diameter and five inches in depth, and was kept full and overflowing by water constantly dropping from the stalactitic roof. The bottom and sides of the basin were formed of stalagmitic carbonate of lime. At present, instead of exhibiting a concavity five inches in depth, it presents the appearance of a stalagmitic convexity, having its centre elevated upwards of two inches above its circumference, so that, measuring from the bottom of the basin, as it was thirty five years ago, and unto the top of its highest projection, as it is at present, it has grown fully seven inches in height, giving a stalagmitic increase of one inch every five years, or one-fifth of one inch in each year. Now this is certainly a most rapid growth, and far greater than I should have anticipated. If loose stones are thrown into the water of the small pool at the western end of the main fissure, they are, after no long period, entirely covered with crystallized carbonate of lime, in the well-known form of dogtooth spar. I cannot say how long a period is sufficient for this. This water holds a certain quantity of carbonate of lime in solution, with a little sulphate and muriate of lime, and a trace of common salt; but I suspect that these ingredients vary in proportion at different times of the year. The arragonite found upon the roof of the cavern contains no strontia, which was at one time considered to be a necessary ingredient in all arragonites; but this is by no means the case, as,

although this earth is found in many arragonites, there are at least an equal number without it. The main difference between arragonite and common-carbonate of lime, consists in its greater hardness and difference of crystallization—in fact, it is altogether a different arrangement of molecules. This arragonite contains no other substance than carbonate of lime, with the exception of now and then a small proportion of oxide of iron, which occasionally tinges it, giving it a peach blossom, pale red, or yellow colour.

So far I have given a description of this fissure in the limestone rock, or rather in the united rocks of the limestone and clay state. I now come to the *cause* of these crystalline formations. During several distant periods of my life, I have visited this cave, feeling assured that I should sooner or later learn some new principle from an examination into its interesting crystallizations. I have ever considered that in one sense it is better to follow nature blindfold than art with both eyes open; and very many years since I felt convinced that the formation and constant growth of the crystalline matter which lined the roof of this cavern, was caused by some peculiar upward attraction; and reasoning more upon the subject, I felt assured it must be *electric attraction*. Sir Humphry Davy, in pursuing the train of his magnificent discoveries, had found that while all acids were attracted to the *positive* pole of a voltaic battery, in like manner all alkalies, earths, and inflammable substances, were directed to the *negative* pole. His experiments were carried on mostly with very powerful batteries, whose action soon ceased; and although splendid in their results, were perfectly incapable of producing those more durable effects which are shown by a feeble, but long-continued, electrica action—such as

nature uses in her vast and varied laboratory. Moreover, there are other conditions besides electrical action, necessary to be observed, such as *a more or less even temperature*, *absence of light*, and in many cases a *constant motion* of the fluid holding the crystallizable matter in solution, either by dropping from the roof of a cavern, or by water constantly flowing, or by the continual alternate elevation and depression of the surface of the subterranean waters, which surface is for ever varying—low in summer, or more or less overflowing in winter—but *constantly in motion*. It is this eternal motion that greatly facilitates the growth of crystals. This would seem a strange doctrine in a chemical laboratory, where *perfect rest* is more or less essential to the formation of well-defined saline crystallizations ; but such is by no means the case with metallic and earthy matters. I have kept up a constant electrical action for three successive months, upon fluids in a state of unceasing ebullition, in a sand heat furnace, day and night without a moment's rest, the evaporated fluid being duly replenished and watched in the *most careful manner* ; yet the crystals formed were as perfectly solid and regular as similar ones taken from a mine, and were much accelerated in their growth both by the heat employed and by the motion communicated by such heat. There is another condition essential to the production of nearly, if not quite all, regularly-formed metallic, and most earthy, crystallizations. It is the interposition of a *porous medium* between the two opposite electrical poles engaged in the work of forming minerals. In art this is brought to pass by the intervention of tabular surfaces, or cups of porous earth, or other porous material, which is used to separate the fluids or substances acted on, so as to bring them together slowly and regularly into a solid form. It is

absolutely impossible, within the limits of this paper, to describe the various and immense advantages which attend this mode of operating, which acts as a sort of comparative safety-valve to the electric energy, having a vast tendency to check an undue power, and to keep apart the attracting principles from too hasty a union, which would be destructive of mineral crystallization. In nature, this is effected by wider or narrower veins of moist clay, termed in Cornwall "flookans," and which accompany most of the metallic lodes. These flookans are occasionally of immense size, and are sometimes parallel to the lodes, but mostly divide them at more or less obtuse and acute angles. Without these flookans, or other similar checks, in all probability no regular crystals would be discovered in mines. Electricians divide all known substances into what they term *electro-positive* and *electro-negative*, each of which is composed of self repellent particles, but attractive of their opposites. Thus the electro-positive particles held in solution are attracted to the *negative* pole of the voltaic battery, and the electro-negative ones to the *positive* pole. If a too powerful electric action be excited, the crystallizable matter will be attracted to its respective pole in a gelatinous or powdery form, according to its nature ; but no solid or definite formation will take place. If a somewhat less action be employed, a more solid but shapeless mass will be obtained ; but if a feeble power be made use of, the consequence will be the production of crystals with definite, well-formed facets—exactly similar in all respects to natural ones of the same kind. I have now an experiment in action which has continued for eight years without ceasing. It consists of the passing of a feeble electric current through a solution of silicate of potash, the negative pole of the battery being connected with a

piece of oak plunged into the solution of flint. On a platina wire, immersed in the same solution, and connected with the positive pole, is forming a deposit of silicious matter larger than a crown-piece, and arranged in concentric layers of white and brown shades—closely resembling what is termed fortification agate. It was very soft and gelatinous at first, but has been gradually indurating, and is at present considerably more solid than it was, although it is entirely covered by the solution. The old saying, "Ars longa, vita brevis," is strikingly exemplified here. Thus, *time* is required to bring these matters to perfection. The diamond is probably the electrical crystallization of ages. Now there are two reasons why heat and motion are greatly conducive to electrical crystallization. The first occasions a more rapid evaporation of the water holding the crystallizable matter in solution, and causes the fluid acted on to be a far better conductor of electricity. The second, or *motion*, so disposes the atoms that it agitates, that, being polarized by the electric action—that is, each atom having its opposite extremities rendered respectively positive and negative—they present themselves more readily to the opposite pole of the battery—the negative end of the atom to the positive pole having its outside still positive, or the positive end of the atom, as the case may be, being drawn to the negative pole, having its outside still negative ; so that there is no impediment to the even and quiet passage of the electric current, and the continual transfer of the atoms acted upon to their respective poles. This may be better understood by placing a common magnet flat upon a table, with a sheet of paper lying upon it. If you let fall a mass of iron filings at once upon the paper, they will be attracted by the magnet below it into the form of a rude

mis-shapen heap; but if such filings be slowly sifted through a fine sieve, they will assume the form into which they are attracted by their respective polarities, and present a beautifully regular appearance, in obedience to the forces of the magnetic current. I must again observe that in such a sketch as this, I am only just able to touch upon the more prominent points affecting the subject upon which I am treating, otherwise I might adduce a host of experiments, whose results have undeniably proved the advantages of motion, in the electrical formation both of amorphous and crystallized matter. As one instance, if the electric influence be passed through lime water, when perfectly still, and a similar current be passed through an equal quantity of the same water, when kept in a state of agitation, the production of crystals of carbonate of lime will be much more rapid and abundant in the latter, than the former case. In fact, nothing in Nature stands still, however it might seem to repose.

"Nature ne'er meant this vast creation,
To lie one dull lethargic whole,
But, mistress of her great vocation,
Gave to the mass a glowing soul."

"Thus, from their deep recesses beaming,
Sprung life, and light, and joy to bless,
And billowing waves and waters streaming,
Their mighty Maker's hand confess."

All animal, vegetable, and mineral life, (for life it is, though of a lower order) is constantly advancing or receding.—*In the mineral world no two dissimilar substances come into contact or conducting communication with each other, with the intervention of water, without the one giving, in the course of time, a something to the other.*—Like the animal, or vegetable, they are in continual warfare, the result of

which are new substances—an apparent evil, out of which springs good,—exhibiting first, the deformity of decay, but ending in boundless beauty, and infinity of exquisitely varied formation. I have no doubt but that the secondary cause of these mighty changes is the electric principle,—Nature does not work with the voltaic battery of man, with its two dissimilar metals, and associated fluid, but she progresses, although with similar elements, yet different ones. The grass covers the soil with its verdure, absorbing from that soil electrically, the principles which support its growth, and decomposing by a power, far superior to that of art, and by laws ill understood, the substances in contact with its roots ; making even the hard flints subservient to the birth of the tender vegetable above—carrying substances apparently insoluble by such a process, into its remotest ramifications, laughing at the devices of the chemist, and the boasted philosophy of man ; still, let us endeavour to imitate, though at a humble distance; let us search for those laws, and although often baffled, we shall be well recompensed. The vast strata of granite and clay-slate which often come into contact, moistened by these subterraneous waters, are quite sufficient to excite electric currents, amply fitted for the purposes they have to perform. I have often produced crystalline matters without the use of a metal in its metallic state, or indeed any battery whatsoever. Some years since, being at Weymouth, I observed some rounded limestones and some sea shells embedded in the clay of a small perpendicular cliff, each stone and shell being covered with crystals of sulphate of lime. On looking around to investigate the cause of the formation of sulphate of lime upon these substances, I discovered a stratum of decomposing sulphuret of iron, running horizontally on the top

of the cliff and just below the soil ; accordingly I reasoned thus.—The rain-water penetrating the soil moistened the sulphuret of iron, and decomposed it, the oxigen of the water converting the *sulphuret* to the *sulphate*, and the sulphate of iron being a soluble salt, passed through the clay, and was slowly admitted into contact with the surfaces of the limestones and shells. A local electric action was excited, in which the limestones and seashells became negative, whilst the upper stratum of sulphuret of iron was positive. The sulphate of iron and carbonate of lime suffered each a decomposition, and sulphate of lime was produced in a crystallized form upon the negative surfaces of the limestones and shells, carbonic acid gas being liberated ; moreover, this iron being deprived of its sulphuric acid, absorbed oxigen, and was converted into red oxide of iron, which was abundantly precipitated around the base of the crystals of sulphate of lime, in a powdery form. In order to prove the correctness of this theory, on my return home, I took a large basin, half filled it with pipe-clay and kneaded up with water to the consistence of moist putty, and imbedded in the clay some pieces of limestone and some seashells. I next formed a stratum upon the clay of powdered sulphuret of iron, and then filled the basin with common water, and put it aside in a dark cupboard for a twelvemonth. At the end of this period I brought it into the light and examined it with no small anxiety ; but was delighted to find that every piece of limestone and seashells which had been embedded in the clay, when taken out, washed and dried, was covered with prismatic crystals of sulphate of lime, exactly similar to those found in the cliff at Weymouth, but of course they were small, though perfect. Such are the effects of what I term LOCAL ELECTRICITY. Observe that here no

battery was used, nor metal in its metallic state. It was simply a close imitation of nature, but followed out only for a year, whereas nature has at her command unlimited time and resources. Now as we find the great body of amorphous and crystalline formations which exist in the subterranean fissures or lodes to exist at a more or less considerable distance from the surface of the earth, and as the subterranean heat is found to increase pretty regularly from a few feet beneath the surface to the greatest depth which has been sunk, we may conclude that the temperature in which they are found is most congenial to their formation, as well as is the uniformity of such temperature. In fact, I commonly find in my artificial processes, whether I employ a higher or lower temperature, that it is desirable it should be as even as possible, thereby corresponding to the conditions under which they make their appearance in nature. I think, with many others, that the existence of a central fire within our globe is highly probable, and likewise that such heat is nearly constant ; or, if in a state of gradual diminution, that such diminution is extremely slow and regular, and not calculated to produce appreciable changes in the course of some centuries. The presence or absence of light occasions a very considerable difference in the electrical formation of crystals, both as regards their form, the size of each crystal, its solidity, the space over which they extend, and their adhesiveness to the substance upon which they grow. In some instances exposure to daylight altogether prevents the desired formation. I have found this to be the case with respect to sulphate of strontia. An apparatus calculated to produce such a formation was exposed for two months in a room with a southern aspect, but not a single crystal made its appearance on the southern side, and but

a few very minute ones were visible on the northern or shaded side, whereas on being carried down into a dark subterranean cellar and deposited on a shelf, prismatic crystals of sulphate of strontia rapidly shot out on all sides, and at the end of fifty-three weeks exceeded half an inch in length. Many years since I filled a tumbler with water taken from the pool in Holwell Cavern, and exposed it to the action of a small voltaic battery excited by water alone, connecting the opposite poles of the battery with the Holwell water by two platinum wires let fall into the opposite sides of the tumbler. An electric action immediately took place, which continued for nine days, but not finding any formation upon either of the wires, I was about to remove the whole apparatus, when at that precise moment a party of friends called and remained sometime. This most fortunate delay prevented the removal of the apparatus till the next or *tenth* day, when, as I went for the purpose of so doing, I plainly observed some sparkling crystals upon the negative platinum wire, which proved to be carbonate of lime, attracted from the mineral water by the electric action. I afterwards repeated this experiment in a dark cellar, and produced a similar result in six days. This was the first experiment of the kind. I have at present a glass quart jar, filled with the Holwell water, acted on by a small voltaic battery, through the medium of two platinum wires. It is placed on a shelf in the *dark*. I have likewise an exactly similar apparatus, alike in all respects, except that it is placed on a shelf in the *light*. These were both set in action on the 20th of last August; within ten hours crystals of carbonate of lime began to form on the negative wire of each, but none on the positive, and they have now considerably increased on both negative wires; but there is a wide dif-

ference between the crystalline formation in the dark and that in the light. In the first, the crystals are decidedly larger, and longer, and more firm. In the last they have a more soluble appearance, and are not so firmly attached to the wire. Besides, the termination of the negative wire in the light is surrounded by a kind of halo of insulated specks of carbonate of lime, forming a small ball of about one-fourth of an inch in diameter. When viewed through a lens, it exhibits a singular disjointed appearance. Now the negative wire in the dark has had such an influence on that side of the glass jar, that it is being covered to a large extent by carbonate of lime formations, which is not the case with the similar wire in the light, save to a very limited extent. In fact, certain of the sun's rays are electrical, and neutralize to a great degree, or materially change the electrical formation, which would take place were the experiment conducted in the dark. We have thus seen that the union of *electric action*, with a *moderately uniform temperature*, and *sufficiency of heat*, to prevent congelation of the fluid under action, *absence of light*, together with the interposition of a more or less *porous medium*, will attract the crystallizable matter from its solution and produce a variety of forms, which will not make their appearance without such conditions. We have likewise seen that those crystallizations or formations are greatly assisted by constant motion. Just on the conditions which exist in Holwell Cavern, and under these circumstances, I have produced about 200 varieties of minerals, *exactly* resembling in all respects similar ones found in nature, as well as some others never before discovered in nature, nor formed by art. Still, there are a vast number of minerals which, in the present state of the science, defy the ingenuity of man to imitate, but many

of which might have been produced by *central* or *volcanic heat*, or immense *pressure*, added to the other requisites. The last thing to consider is—*From what source does the required electric action arise?* Now in answer to this, as far as we know, it most probably arises from one of the following causes; first, from terrestrial electric currents, caused by permanent magnetic action passing at right angles to them ; or secondly, from similar electric currents excited by the union of vast strata of dissimilar rocks in contact with subterranean waters ; or thirdly, from similar currents either excited or aided by a central or volcanic heat, perhaps coming under the laws of thermo-electricity; or fourthly, and lastly—by the local electric action before alluded to, and which, I presume, is always the case as respects the formation of *insulated* crystalline matters which are found scattered in all directions—often at a great distance from metallic and earthy lodes or veins. These latter are probably formed by the constant action of definite terrestrial electric currents. In the case of Holwell Cavern, the electric power is probably excited by the contact of the clay slate and limestone strata ; or there might be a definite current passing along, or at right angles to the main fissure, occasioned by terrestrial electricity, (the existence of which is *certain)* and on the *negative* portion of the roof and sides of the fissure, the arragonite would most certainly be deposited. I once formed some beautiful regular and irregular crystals of arragonite in a very simple manner, viz. by filling a common salting pan with spring water, and placing the two halves of a brick upon the bottom of the pan, at a small distance from each other, and resting a whole brick upon them, in the form of a bridge. Each end of this upper brick I connected by platinum wires with the opposite poles of a

weak voltaic battery, in constant action for three months, the apparatus being kept in a dark room. At the end of the above period I removed the bricks, and found that the negative end of the upper brick was rather strongly connected with the lower half brick on which it rested; and on forcing them asunder I discovered that the cementing material was composed of crystalline arragonite, some of which was formed upon both the united surfaces of the bricks, in snow-white needle crystals, radiating from their common centre; others were in the form of well-defined six-sided prisms, with flat terminations. These latter took shelter in some of the cavities of the bricks. The explanation of this is simple enough. The bricks were made of clay containing a certain per centage of lime. The water into which they were plunged contained a certain proportion of hydrochloric acid as one of its component parts. This acid was directed to the positive end of the brick, where it acted on the lime at that end, forming muriate of lime, the acid of which was retained at the positive end, and the lime, attracting carbonic acid from the water, formed carbonate of lime, which was directed to the negative end of the brick, where it shot out in crystals of arragonite. *Why* arragonite was formed here, instead of common carbonate of lime, I am at present quite at a loss to guess. I had the pleasure of shewing this formation to two highly scientific gentlemen, one of them a gifted foreigner, and one of the most distinguished chemists in Europe. I have at other times formed arragonite in different modes, but never could account for the reason why arragonite appears at one time, and common carbonate of lime at another, either in art or nature. The present theory of crystallization is most imperfect, little being known about it. I once by chance hit upon a mode of

producing the crystallized red oxide of copper, either in cubes or octohedrons, at pleasure; but I can give no reason why the one always made its appearance in one case and the other formation in the other. The day will probably arrive when more will be known of those matters.

I now come to another point, most intimately connected with geology; I mean the formation of fissures in the earth, on which I have made many experiments. If you take a porous pot—(a common garden pot will do, but it is better to cork up the aperture at the bottom of it)—and fill it with clay kneaded with water to the consistence of moist putty, (pipe-clay is the best for the experiment), and stand it upright in a large basin of water, in such a manner as that the surface of the clay in the pot shall be elevated four or five inches above the surface of the water in the basin; then connect the water in the basin by a platinum wire with the *positive* pole of a constant, but weak, voltaic battery; and lastly, force a platinum wire into the middle of the moistened pipe-clay in the pot, vertically, and at about half the depth of the clay, connecting the other end of the wire with the *negative* pole of the battery; the following effects will take place: If the battery is *feeble*, after a few days action two fissures, forming with each other two obtuse and two acute angles, will appear in contact with the wire, and will divide the clay vertically from top to bottom. The size of these fissures is comparatively great; and they will quickly be filled with water, drawn upwards from the moistened clay, which will form a small pool on the top of the clay, where it will shortly increase till it drops over the side of the pot, through a notch which should be cut in it, into the basin below. The clay would thus be soon emptied of its water, were it not replenished by that in the basin, which

passes through the porous medium of the garden pot, and keeps up the supply. Here we have, first, fissures in the moist clay, caused by a weak *negative* electricity ; secondly, a constant spring of water, *rising above the level of the supply*, occasioned by the same *negative* electricity ;—the first accounting for fissures made in strata when soft, but afterwards indurated by *time ;* the second, for springs issuing from the tops of hills elevated above all the surrounding ones. To *prove* that this is caused by *negative*, and *not* by *positive* electricity, reverse the connections of the wires with the poles of the battery, making that in the clay *positive* instead of *negative*, and that in the water in the basin *negative* instead of *positive*—then no FISSURE will take place in the clay, and all its moisture will be drawn out of it and added to the water in the basin, *incontestibly* proving that the fissures and spring were caused by *negative*, and *not* by *positive* electricity, nor by capillary attraction. If the experiment as first described be repeated, only substituting a *powerful* for a *weak* battery, a rapid and strong action will take place within the clay, and large pieces of it will be forced up in all directions, and large fissures produced, filled with a comparatively large quantity of water. Here we have the earthquake. Some years since I noticed an account of an earthquake in the kingdom of Ava, in the East Indies, in which it was stated that the earth opened in tremendous chasms, which were instantly filled with water, which gushed out in sufficient quantity to flood the surrounding country, causing vast damage. It was stated that each fissure was deep enough to float a man-of-war. Is not this closely analogous to the experiment here described? Again, if while the weak electric current is passing through the clay, as at first represented, you plunge three or four glass funnels

vertically into the clay, at some distance from each other, and fill each funnel with a solution of different metals, sulphur, &c. &c ; in the course of time these solutions will find their way through the clay into which they are stuck, and their metallic salts will be attracted by the same negative influence which occasions the other phenomena, become decomposed, and line the fissures with metallic earthy, or sulphureous crystals, according to the nature of the fluids employed. Here you have the *metallic* or *earthy lode*. By a similar apparatus, and using three funnels, filled respectively with silver, copper, and sulphur in solution, the experiment being continued for two years, and the fluid kept duly replenished, I lined the two fissures in the clay with the following substances, amorphous or crystallized native silver, sulphuret of silver, native copper, red oxide of copper, sulphuret of copper, and crystallized sulphur. Here were two complete lodes, which became considerably indurated at the termination of the experiment,—a mine in a garden pot. This would be sufficient to account for the fissures in the Holwell lime rock, when in its incipient state of moisture. Had metallic solutions been then in its vicinity, with a sufficient electrical current, sufficiently long continued, we should have seen there an east and west metallic lode, instead of an empty chasm, partially lined with arragonite or carbonate of lime. Nevertheless, as it is, it is a most interesting cavern, and the extreme beauty of the arragonite, even in its present state cannot easily be described. I shall conclude with an extract from an unpublished poem touching on this subject.

"Here not a breath at hand, nor distant sound,
Nor insect's hum disturbs the calm around ;
Silence, and sleep, and breathless, starless, night,

Here claim unquestioned, an eternal right.
The sheep's rude bleating, and its tinkling bell,
Pierce not the chasm, nor disenchant the spell.
The shepherd's whistle, and the watch dog's bark,
The raven's croak, the rapture of the lark,
Die on their passage, e'er they reach the gloom,
Or wake the echoes of the mineral tomb.
Here, whilst new realms arise, and old decay,
And centuries of crime are swept away,
The night-born filagree of ages gone,
Fenced from all living gaze, creeps slowly on.
Pendant from arching roof the drops concrete,
Till the rude floor the growing crystals meet,
And arborescent shoots their branches twine,
Like the soft tendrils of the tangled vine ;
The dazzling whiteness of whose stems might vie,
With drifted snows that on the mountains lie.